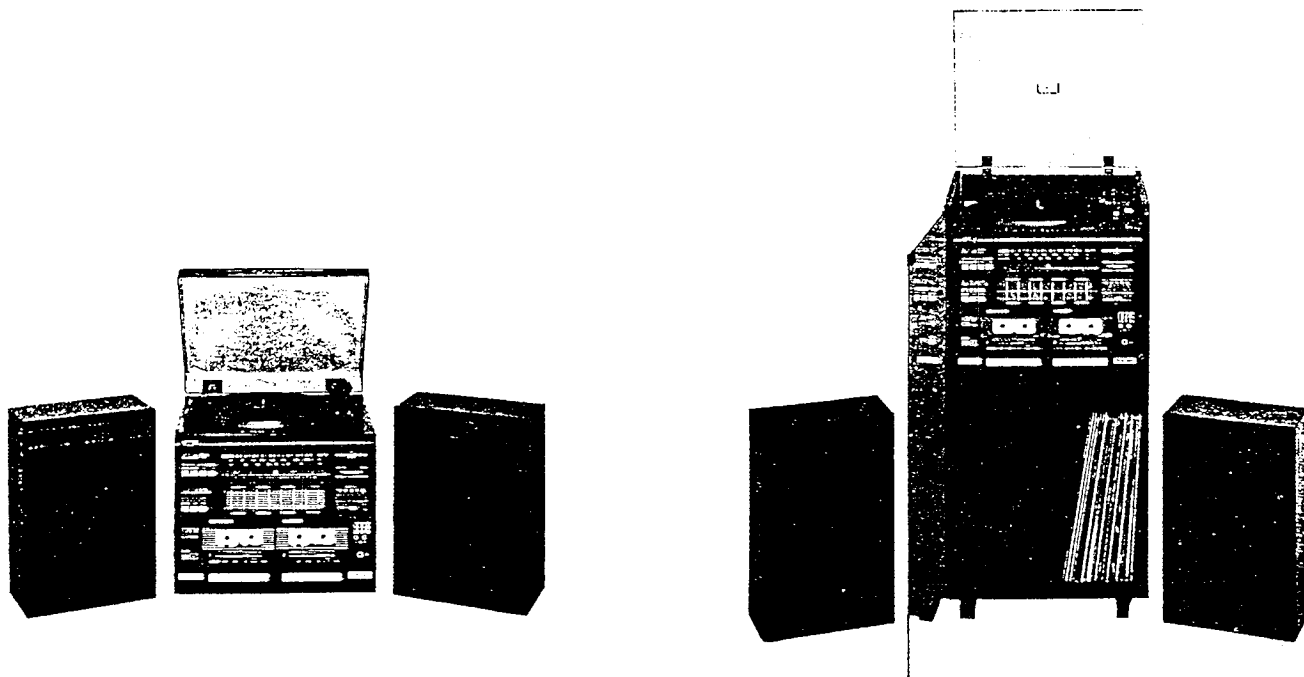


AMSTRAD



**MS-45/F
MIDI SYSTEM
TS46/F
TOWER SYSTEM
SERVICE MANUAL**

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TECHNICAL SPECIFICATION

AMPLIFIER SECTION

| | |
|--------------------|---|
| Power Output | : 2.5W/Channel @ 1% THD |
| | : 10 Watts Total @ 10% THD |
| Frequency Response | : 20Hz to 20,000Hz |
| Distortion | : 1% @ Full Power |
| Tone Controls | : Bass (20-200), Mid (200-2k) & Treble (2k-20k)Hz ± 10 dB |

TUNER SECTION

| | |
|---------------------|----------------------|
| FM Band Freq. Range | : 86.5 - 109MHz |
| AM Band Freq. Range | : 525 - 1650kHz |
| FM Sensitivity | : 3uV |
| FM Aerial Input | : 75 ohms unbalanced |

CASSETTE SECTION

| | |
|------------------------|-----------------------------|
| Tape | : Compact-Cassette Type |
| Tape Speed | : 4.75cm/sec |
| Tracks | : 4 Track, 2 Channel Stereo |
| Wow & Flutter | : 0.2% |
| Frequency Response | : 80Hz - 12kHz |
| Microphone Sensitivity | : 0.5mV @ 600 ohms |

PHONO SECTION

| | |
|-------------------|-------------------------|
| Transmission | : Belt-Drive |
| Cartridge Type | : Ceramic |
| Turntable Control | : Manual with Auto-Stop |
| Speed Control | : Electronic |

DIMENSIONS AND WEIGHTS MS45

| | |
|----------------|----------------------------|
| Main Unit (mm) | : 360(w) x 320(h) x 330(d) |
| Weight | : 7.25Kgs |
| Speakers (mm) | : 180(w) x 260(h) x 140(d) |
| Weight | : 3.6Kgs each |

DIMENSIONS AND WEIGHTS TS46

| | |
|----------------|----------------------------|
| Main Unit (mm) | : 397(w) x 790(h) x 370(d) |
| Weight | : 21Kgs |
| Speakers (mm) | : 260(w) x 390(h) x 140(d) |
| Weight | : 4Kgs each |

SUPPLY DETAILS

| | |
|-----------|-----------------------|
| Voltage | : 240 Volts A.C. only |
| Frequency | : 50Hz only |

SAFETY

All units are tested to the following safety specification during manufacture:-

- Flash Test:** Tested at 2.2kV between live and neutral of the mains lead joined together and all accessible metal points on the exterior of the set.
- Insulation resistance test:** Tested between the live and neutral of the mains lead joined together and all accessible metal points on the exterior of the set to show a resistance of at least 4Mohms at 500V DC.
- Earth lead continuity test:** Tested for a continuity of less than 0.5ohms at 10 Amps between the earth of the mains lead and the record deck transit screw.

If there are any doubts about continued electrical safety after servicing, the above tests should be carried out.

ALIGNMENT INSTRUCTIONS

Equipment Required:

- | | |
|--|-------------------------------|
| 1. AM signal generator | 6. Nonmetallic alignment tool |
| 2. FM signal generator | 7. AF oscillator |
| 3. IF sweep generator with marker capabilities | 8. Frequency counter |
| 4. Oscilloscope | 9. Distortion meter |
| 5. VTVM | |

Important:

1. Check line voltage.
2. Set function switch to band being aligned.
3. Set the loudness switch to off.
4. Remove the antenna from the terminal.
5. Set tone control to high.
6. Connect low side of signal source and output indicator to chassis ground (unless otherwise specified).
Ground connection should be kept close to high side connection.
7. Signal input should be kept as low as possible to avoid AVC and AFC action.
(Set output indicator to high sensitivity.)
8. Standard modulation is 1000Hz at 30% amplitude for AM (1000Hz at 22.5kHz deviation for FM).

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AM IF

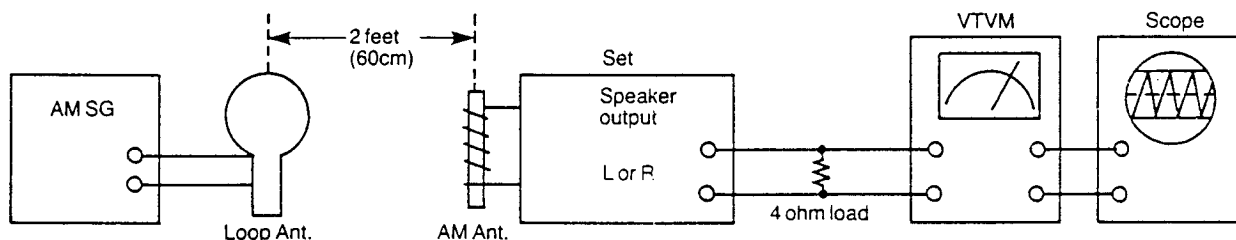


Figure 1

AM Section

| Circuit Alignment | Equipment Connection | Step | Gen. Freq. | Dial Setting | Adjustments |
|-------------------|--|------|------------------------|--------------------------|--|
| IF | AM signal generator with loop antenna (See Fig. 1) | 1 | 465 kHz (1000 Hz Mod.) | Tuning gang fully closed | T3 (AM IFT) Adjust for maximum output. |
| | | 2 | | | Repeat until no further improvement can be made. |

AM BAND/TRACKING

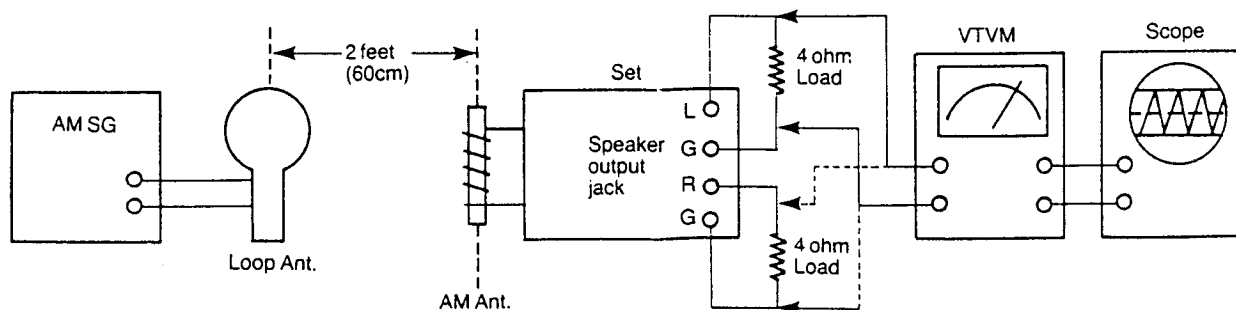


Figure 2

| Circuit Alignment | Equipment Connection | Step | Gen. Freq. | Dial Setting | Adjustment |
|-------------------|--|------|-------------------------|--------------------------|---|
| MW BAND | AM Signal Generator with loop antenna. VTVM across 4 ohm load. (See Fig. 2.) | 1 | 520 kHz (1000 Hz Mod.) | Tuning gang fully closed | L5 (MW Osc. coil) Adjust for maximum output. |
| | | 2 | 1650 kHz (1000 Hz Mod.) | Tuning gang fully open | TC6 (MW Osc. trimmer) Adjust for maximum output. |
| | | 3 | | | Repeat steps 1 and 2. |
| MW TRACKING | AM signal Generator with loop antenna. VTVM across 4 ohm load. (See Fig. 2.) | 4 | 600 kHz (1000 Hz Mod.) | Tune to signal | L3 (MW Ant. coil) Adjust coil on ferrite core for maximum output. |
| | | 5 | 1000 kHz (1000 Hz Mod.) | Tune to signal | TC3 (MW Ant. trimmer) Adjust for maximum output. |
| | | 6 | | | Repeat steps 4 and 5 several times. |
| LW | BAND | | 14.5-280 kHz | | L7 TC5. |
| | TRACKING | | 160/250 kHz | | L4 TC4. |

FM IF

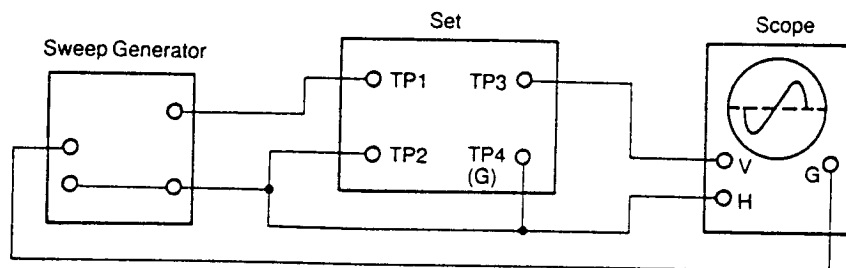


Figure 3

FM Section

| Circuit Alignment | Equipment Connection | Step | Gen. Freq. | Dial Setting | Adjustment |
|-------------------|---|------|------------|--------------------------|---|
| IF | IF sweep Marker generator to FM Antenna Terminal TP1, TP2. Oscilloscope from "TP3 to TP4" (See Fig. 3.) | 1 | 10.7 MHz | Tuning gang fully closed | T1, T2 (FM IFT) Adjust for maximum symmetrical response. (10.7 MHz at the center point) |
| | | 2 | | | Repeat step 1. |

FM BAND/TRACKING

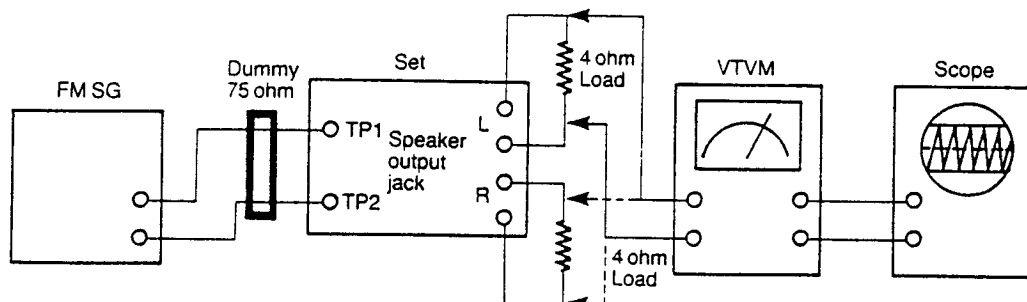


Figure 4

FM Section

| Circuit Alignment | Equipment Connection | Step | Gen. Freq. | Dial Setting | Adjustments |
|-------------------------|---|------|----------------|--------------------------|--|
| LOCAL OSCILLATOR (BAND) | FM signal generator to antenna terminals (TP1, 2) through 75 ohm antenna matching network. VTVM across 4 ohm load. (Fig. 4) | 1 | 87 MHz (Mod.) | Tuning gang fully closed | L2 (FM OSC. coil) – stretch or squeeze Adjust for maximum output. |
| | | 2 | 109 MHz (Mod.) | Tuning gang fully open | TC2 (FM OSC. Trimmer) Adjust for maximum output. |
| | | 3 | | | Repeat steps 1 and 2 several times. |
| RF AMPLIFIER (TRACKING) | Same as "LOCAL OSC" | 4 | 90 MHz (Mod.) | Tune to signal | L1 (FM RF coil) Adjust for maximum output – stretch or squeeze. |
| | | 5 | 106 MHz (Mod.) | Tune to signal | TC1 (FM RF Trimmer) Adjust for maximum output. |
| | | 6 | | | Repeat steps 4 and 5 to obtain suitable sensitivity at 90 MHz and 106 MHz. |

FM MPX

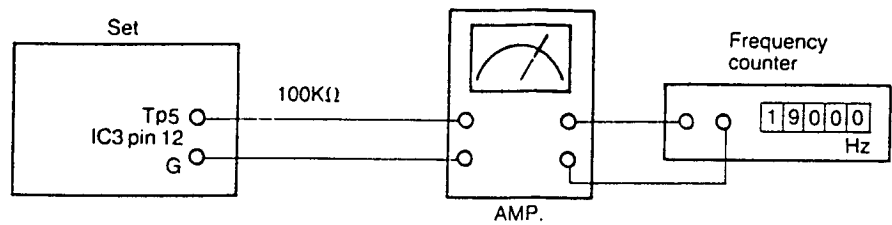


Figure 5

FM MPX

| Circuit Alignment | Equipment Connection | Gen. Freq. | Dial Setting | Adjustments |
|-------------------|---|---------------|--------------|--|
| 19/38 kHz | Freq. Counter from TP5 to ground (Fig. 5) | 98 MHz (Mod.) | 98 MHz | First make sure FM section is properly aligned. Adjust R24 for frequency counter indication of 19 kHz. |

TAPE SPEED/AZIMUTH

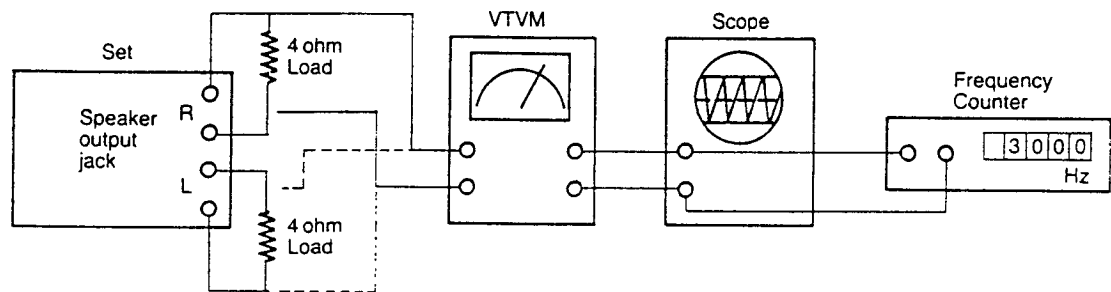
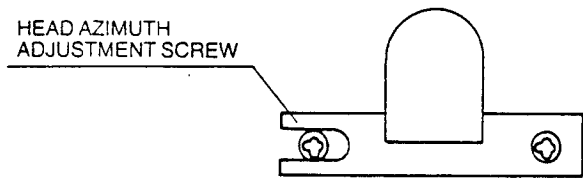


Figure 6



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Figure 7

Alignment of tape speed

- a. Play a standard test tape recorded with 3 kHz signal (or 1 kHz). (Equipment connection: See Figure 6.)
- b. Adjust variable resistor in motor or Deck PCB R113 to provide 3 kHz (1 kHz) frequency.

Alignment of Had azimuth

- a. Play a standard test tape recorded with 8 kHz signal such as TEAC MTT-113CN. (See Fig. 6)
- b. Adjust the azimuth adjustment screw for maximum output. (See Fig. 7)

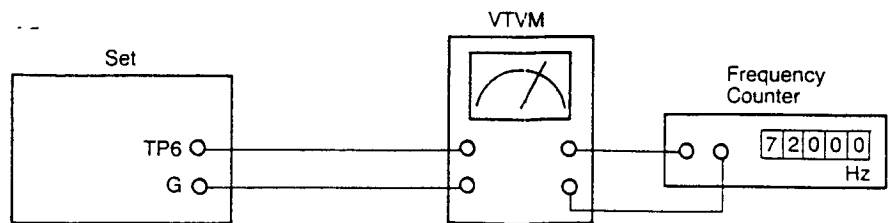


Figure 8

BIAS FREQUENCY

Alignment of recording bias OSC frequency.

- Connect frequency counter to VTVM OUTPUT, connect VTVM to TP6 and Ground. (See Figure 8.)
 - In record mode, record bias OSC frequency must be 72 kHz; adjust with L7, if necessary.
 - In record mode, record bias voltage must be $E3=510\mu A$; adjust with R117, if necessary.
- [See Figure 9] $E3=(E1+E2)/2$.

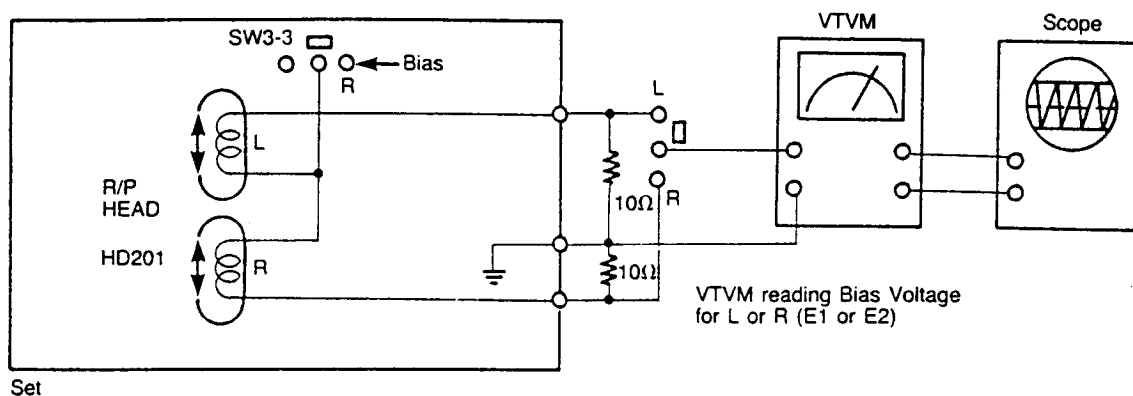
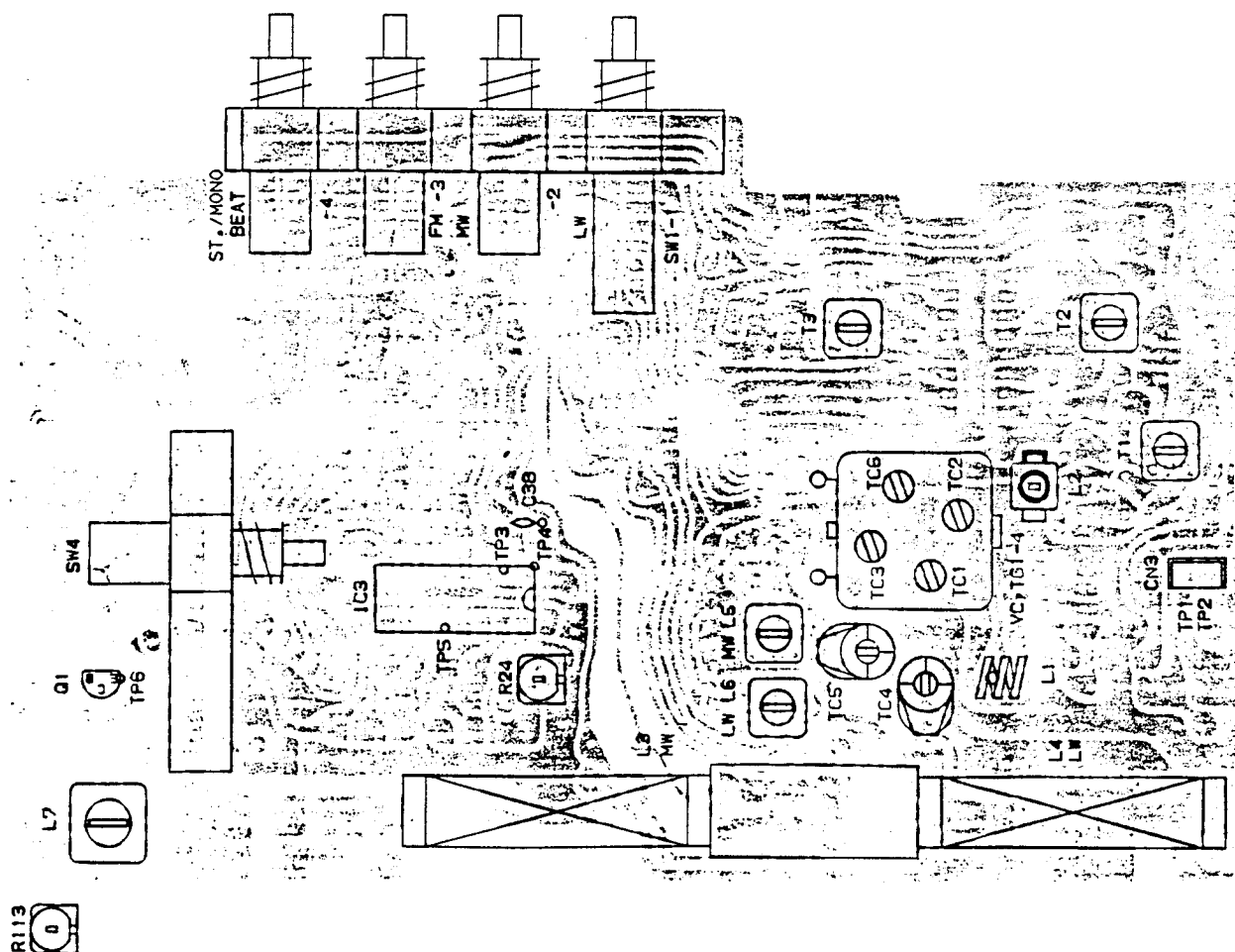


Figure 9

ALIGNMENT POINTS



TROUBLESHOOTING GUIDE

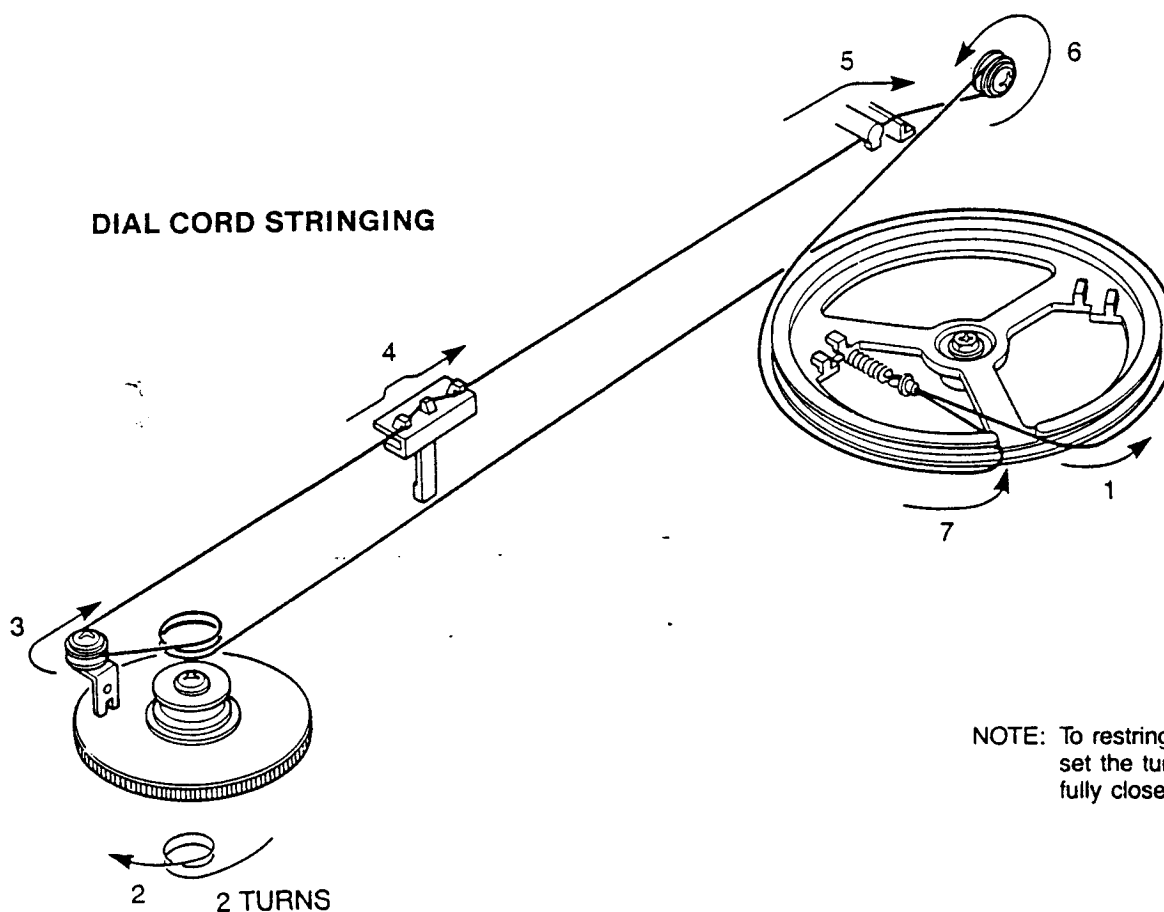
RECEIVER SECTION

| CIRCUIT | SYMPTOM | CAUSE | REMEDY |
|---------|---------------------------------|--------------------------------------|--|
| GENERAL | Inoperative | Defective power switch (SW4) | Replace as necessary. |
| | | Open circuit in transformer (T601) | Check current and voltages. Replaces as necessary. |
| | | Defect in power supply circuit | Check current and voltages. Replace as necessary. |
| | No sound | Defective volume control | Check volume control resistance for continuous operation. Replace as necessary. |
| | | Defective function switch (SW2) | Replace or repair switch. |
| AM | No sound | Defective detector | Check voltages in this circuit. Repair/Replace as necessary. |
| | | Open circuit in AM IFT ANT | Check voltages and resistance. |
| | | Coil or Osc. coil (T3, L4/MW, L5/LW) | Replace as necessary. |
| | Weak sound (low sensitivity) | IF misaligned | Re-adjust (See Alignment Instructions). |
| | | RF misaligned | Re-adjust (See Alignment Instructions). |
| | | Defective IC2 | Check voltages. Replace as necessary. |
| | | Poor contact in Antenna circuit | Resolder and/or repair. Replace as necessary. |
| | | Defective Band switch (SW1) | Repair or replace switch. |
| | | Defective in Detector | Check voltages. |
| FM | No sound | Open circuit in FM IFT | Check voltages and resistances. |
| | | Antenna coil or Osc. coil (L1, L2) | Replace as necessary. |
| | Weak sound (low sensitivity) | Defective FM tuner | Check RF, IF and Detector circuits. Check voltages of IC1 and IC2. Replace parts as necessary. |
| | | RF misaligned | Re-adjust (See Aligment Instructions). |
| | | Defective IC1, IC2 | Check voltages and replace as necessary. |
| | | Poor contact in FM Ant. | Resolder or replace as necessary. |
| | | Defective IC3 | Check voltages of IC3. Replace as necessary. |
| MPX | Poor separation | Improper adjustment of VC0 | Re-adjust R24. (See Alignment Instructions). |
| | No stereo Indicator | Faulty D4 | Check indicator D4 and circuit. Replace as necessary. |

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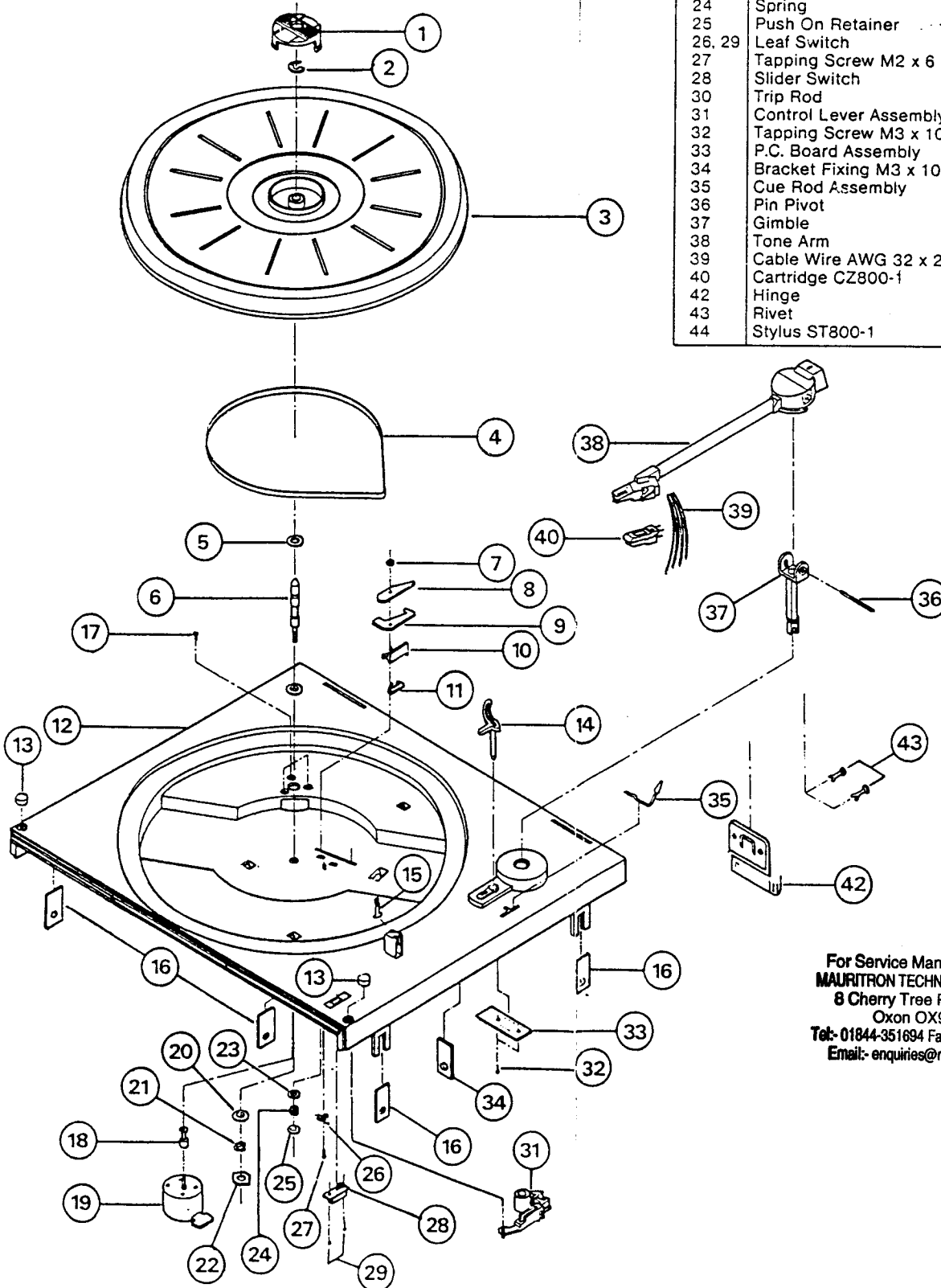
| SYMPTOM | | CIRCUIT | REMEDY |
|--|-------------------|---------------------|---|
| No sound | on both channels | Power supply | Check voltage of transformer of Q7. Replace as necessary. |
| | on Rch (Lch) | Motor | Check voltage at motor (9V). If not proper voltage, change motor. |
| | | Pre-amplifier | Check voltage of IC5 (Pin 11, 15). Replace as necessary. |
| | on both Lch & Rch | Power supply | Check voltage of IC5 (Pin 2 or Pin 14). Replace as necessary. |
| Distortion | on Rch (Lch) | Pre-amplifier | Check voltage on pin 6 of IC5. Replace as necessary. |
| Poor high frequency | on Rch (Lch) | Tape head | Check head azimuth. Re-align as in the alignment instructions. Replace if there are scratches. |
| | | Equalizer amplifier | Check voltage of IC5 (Pin 4 or Pin 12) Replace as necessary. |
| No erasing or no recording | on both Lch & Rch | Bias oscillator | Check erase head. (Open or defective.) Check erase head lead wires. Check Osc. output voltage. (72kHz 15V rms.) If not, replace Osc. coil L7 as necessary. |
| Defect in recording (no recording, weak recording or excessive recording level) | on Rch (Lch) | Record amplifier. | Check that rec-signal is supplied to R/P head. If not check mic Jack, R/P slide switch and IC4 voltage. |
| | | Bias | Check bias current. If not, replace Osc. coil L7. |



NOTE: To restring the dial cord set the tuning gang to fully closed position.

RECORD DECK PARTS LIST

| No. | Description | Part No. |
|--------|--------------------------|----------|
| 1 | 45 Adaptor | 200103 |
| 2 | E-Ring | 200213 |
| 3 | Turntable | 200790 |
| 4 | Belt | 200122 |
| 5 | Nylon Washer | |
| 6 | Spindle | 200791 |
| 7 | Push On Retainer | 200841 |
| 8 | Trip Pawl | 200217 |
| 9 | Clutch Plate | 200218 |
| 10 | Slider | 200219 |
| 11 | Catch | 200842 |
| 12 | Motor Base (Plinth) | 200843 |
| 13 | Cushion | 200821 |
| 14 | Lifter | 200115 |
| 15 | Lock | 200229 |
| 16 | Bracket Fixing | 200844 |
| 17 | Screw Motor | |
| 18 | Motor Pulley | 200788 |
| 19 | Motor 9V | 200787 |
| 20 | Plain Washer | |
| 21 | Lock Washer | |
| 22 | Nut M4 | |
| 23 | Washer | |
| 24 | Spring | |
| 25 | Push On Retainer | |
| 26, 29 | Leaf Switch | 200223 |
| 27 | Tapping Screw M2 x 6 | |
| 28 | Slider Switch | 200776 |
| 30 | Trip Rod | 200845 |
| 31 | Control Lever Assembly | 200772 |
| 32 | Tapping Screw M3 x 10 | |
| 33 | P.C. Board Assembly | 200846 |
| 34 | Bracket Fixing M3 x 10.5 | 200847 |
| 35 | Cue Rod Assembly | 200778 |
| 36 | Pin Pivot | 200768 |
| 37 | Gimble | 200769 |
| 38 | Tone Arm | 200770 |
| 39 | Cable Wire AWG 32 x 2C | |
| 40 | Cartridge CZ800-1 | 200108 |
| 42 | Hinge | 200785 |
| 43 | Rivet | |
| 44 | Stylus ST800-1 | 200109 |



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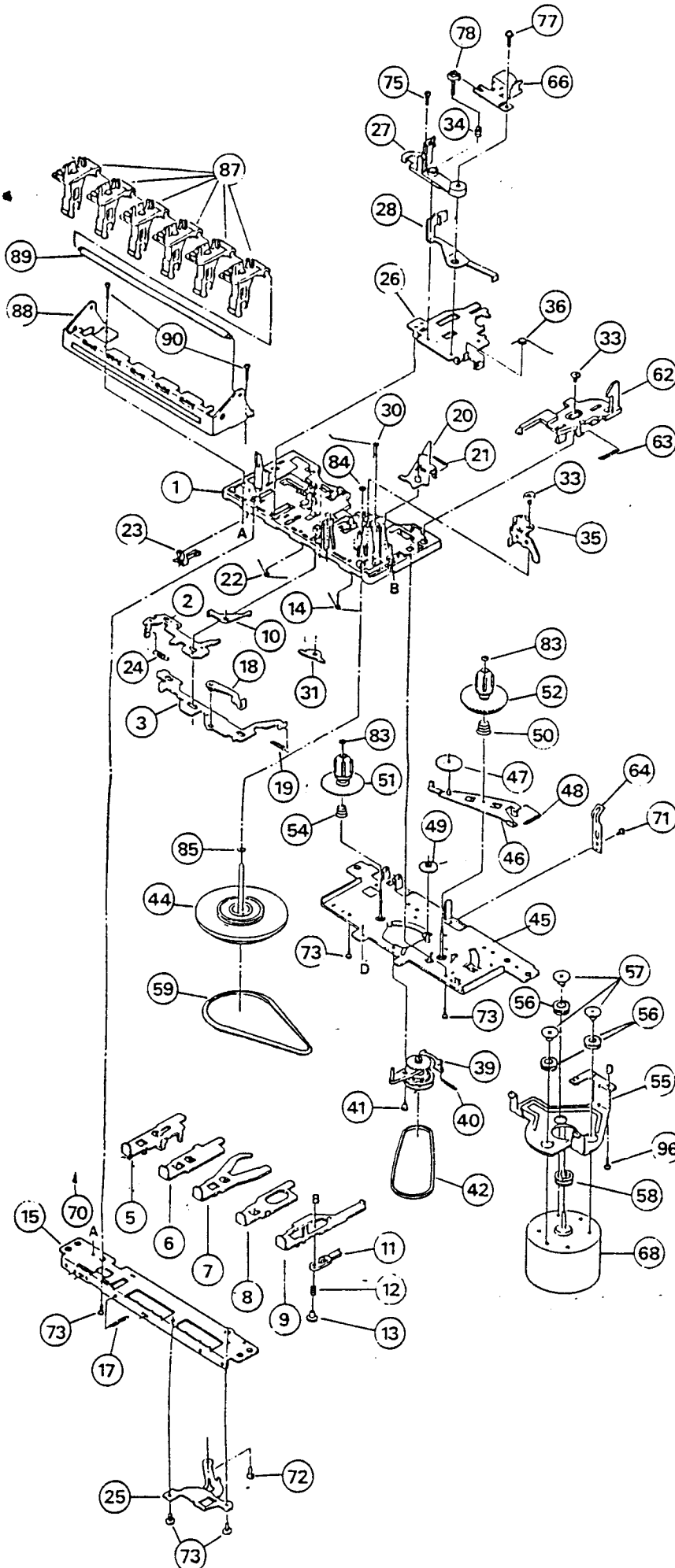
EXPLODED VIEW (Cassette Deck 1)

CASSETTE DECK PLAY

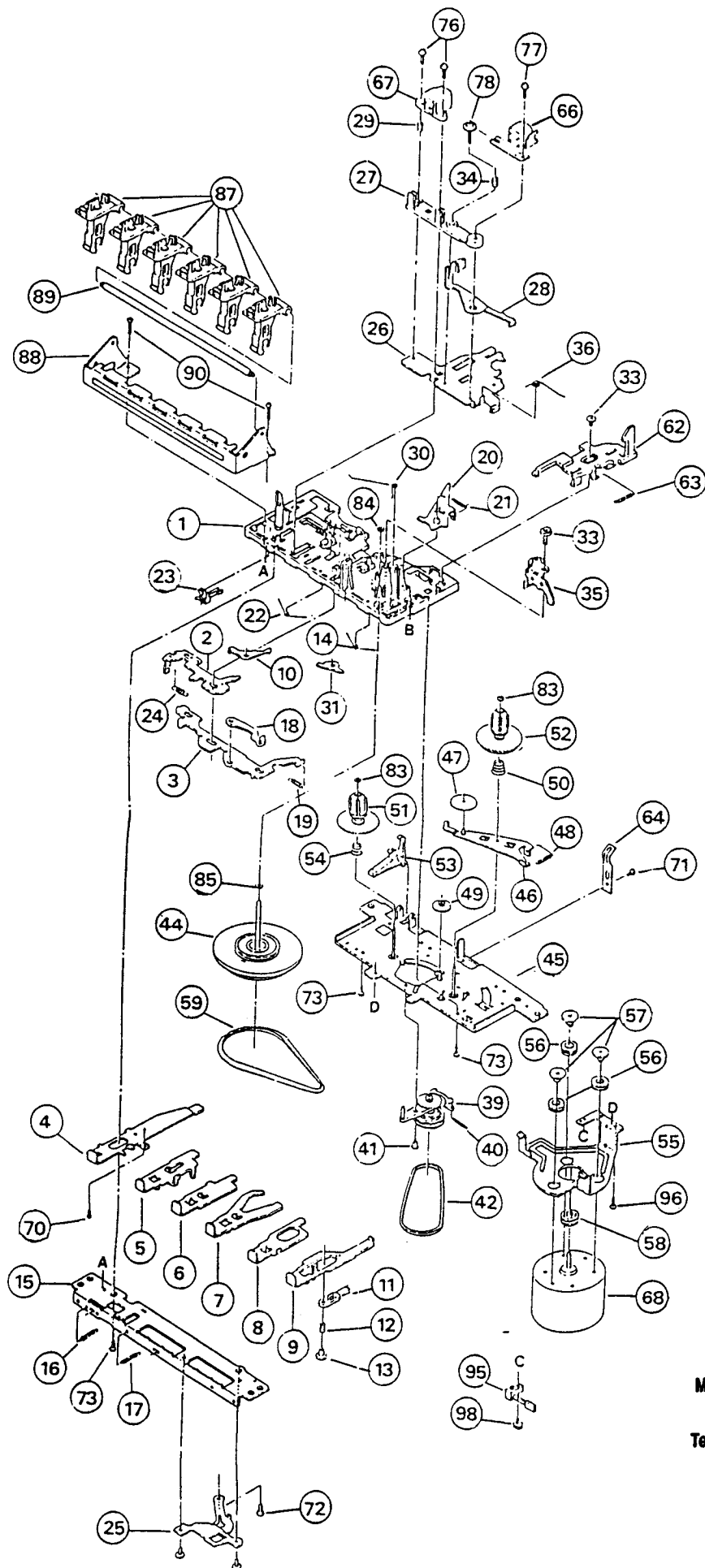
| Ref. | Description | Part No. |
|------|--------------------------|----------|
| 1 | Main Base Assy | 201151 |
| 2 | Switch | 201152 |
| 3 | Push Button Actuator | 201153 |
| 4 | Play Button Lever | 201154 |
| 6 | RWD Button Lever | 201155 |
| 7 | FF Button Lever | 201156 |
| 8 | Stop Button Lever | 201157 |
| 9 | Pause Button Lever Assy | 201158 |
| 10 | RWD Lever | 201159 |
| 11 | Pause Lever | 201160 |
| 12 | Pause Lever Spring | 201161 |
| 13 | Pause Stopper | 201162 |
| 14 | Button Lever Spring | 201163 |
| 15 | Sub Chassis | 201164 |
| 17 | Play Button Lever Spring | 201165 |
| 18 | E Kick Lever | 201166 |
| 19 | Actuator Spring | 201167 |
| 20 | Auto Lever | 201168 |
| 21 | Auton Lever Spring | 201169 |
| 22 | Button Lever Spring | 201170 |
| 23 | Leaf switch LSA-115R | 201171 |
| 24 | Switch Actuator Spring | 201172 |
| 25 | Metal Guide | 201173 |
| 26 | Head panel | 201174 |
| 27 | Head Bash | 201175 |
| 28 | Sensing Plate Assy | 201176 |
| 30 | Head Panel Spring | 201177 |
| 31 | PR Stopper | 201178 |
| 33 | PME Screw | 201179 |
| 34 | Spring | 201180 |
| 35 | Pinch Roller Assy | 201181 |
| 36 | Pinch Roller Spring | 201182 |
| 39 | RF Pulley Arm Assy | 201183 |
| 40 | RF Pulley Arm Spring | 201184 |
| 42 | RF Belt | 201186 |
| 44 | Flywheel Assy | 201187 |
| 45 | Reel Base Assy | 201188 |
| 46 | Take Up Gear Plate Assy | 201189 |
| 47 | Take Up Roller Gear | 201190 |
| 48 | T.G. Plate Spring | 201191 |
| 49 | FF Gear | 201192 |
| 50 | Back Tension Spring | 201193 |
| 51 | Supply Reel Assy | 201194 |
| 52 | Take Up reel Assy | 201195 |
| 54 | Back Tension Spring | 201196 |
| 58 | Motor Pulley | 201200 |
| 59 | Main Belt | 201201 |
| 62 | Eject Slide Lever | 201202 |
| 63 | Eject Slide Lever Spring | 201203 |
| 64 | Pack Spring | 201204 |
| 66 | Play Head | 201205 |
| 67 | Erase Head | 201219 |
| 68 | Motor | 201206 |
| 87 | Operation Lever | 201207 |
| 88 | Button Frame | 201208 |
| 89 | Button Lever Shaft | 201209 |

CASSETTE DECK RECORD/PLAY

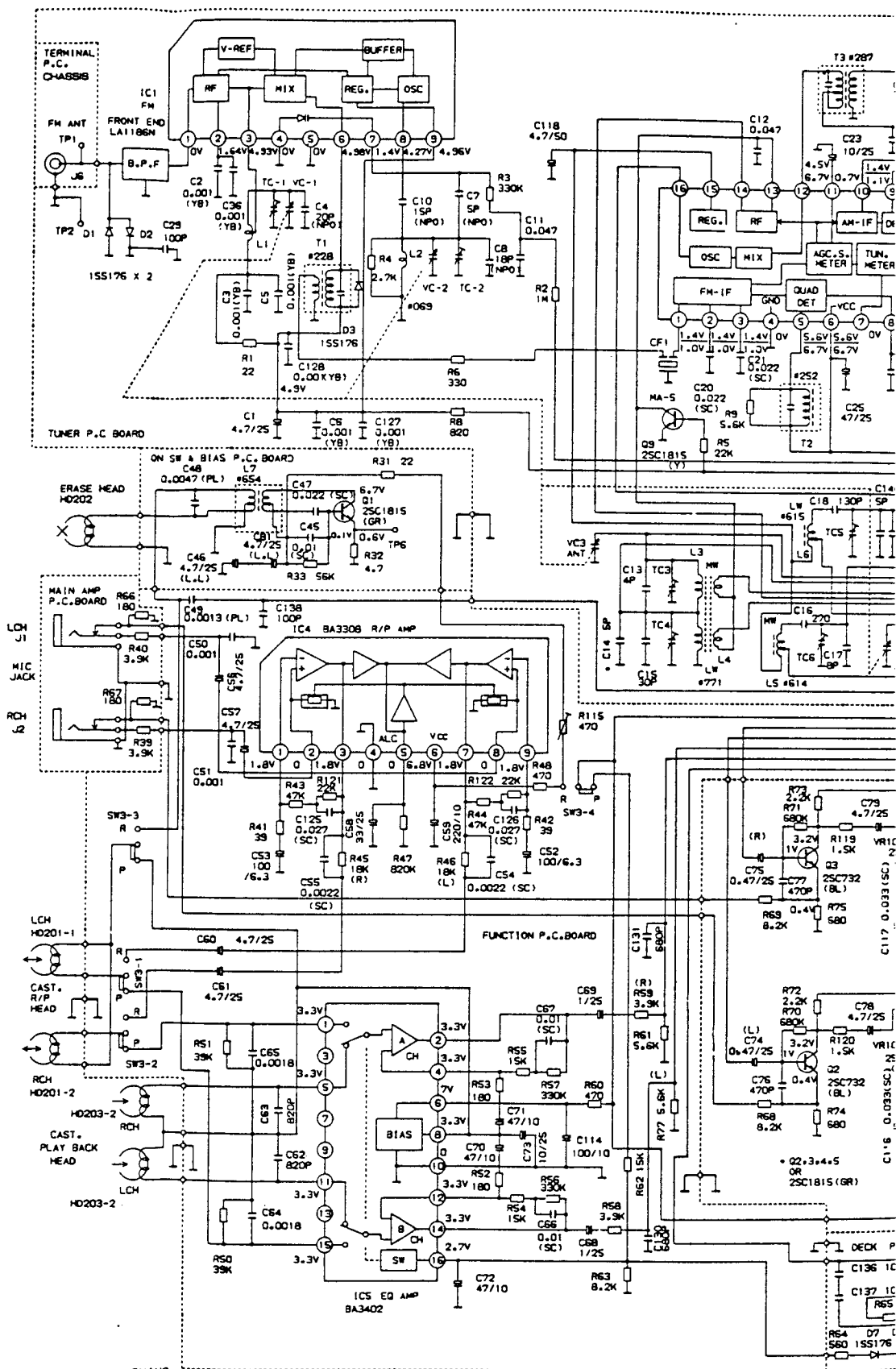
| | | |
|-------------|---------------------|--------|
| 22 | Button Lever Spring | 201170 |
| 29 | Erase Head Spring | 201211 |
| 53 | Record Safety Lever | 201212 |
| 95 | Leaf Switch | 201213 |
| MSW-1373NBK | | |




EXPLODED VIEW (Cassette Deck 2)



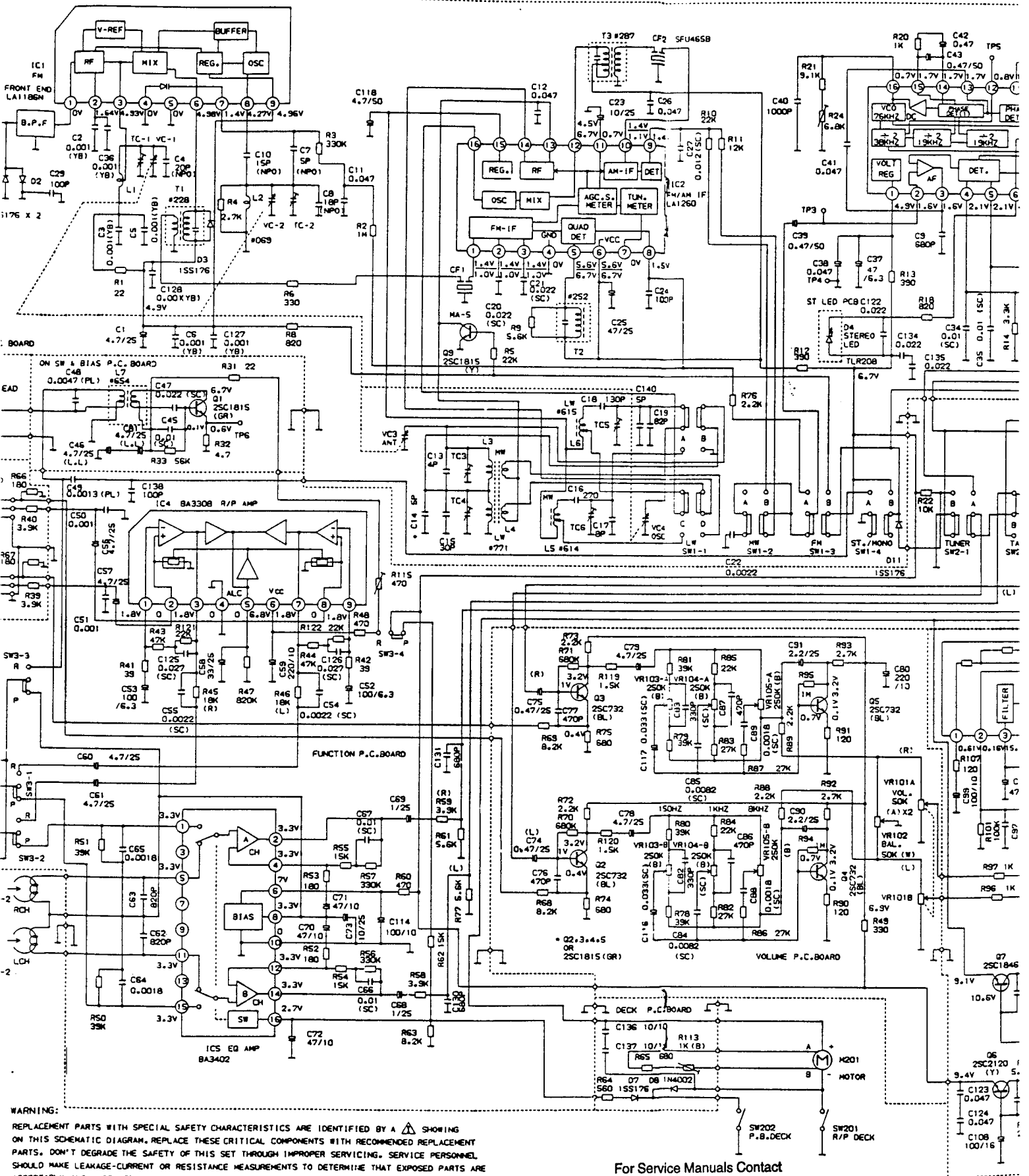
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WARNING:

REPLACEMENT PARTS WITH SPECIAL SAFETY CHARACTERISTICS ARE IDENTIFIED BY A  SHOWING ON THIS SCHEMATIC DIAGRAM. REPLACE THESE CRITICAL COMPONENTS WITH RECOMMENDED REPLACEMENT PARTS. DON'T DEGRADE THE SAFETY OF THIS SET THROUGH IMPROPER SERVICING. SERVICE PERSONNEL SHOULD MAKE LEAKAGE-CURRENT OR RESISTANCE MEASUREMENTS TO DETERMINE THAT EXPOSED PARTS ARE ACCEPTABLY INSULATED FROM THE SUPPLY CIRCUIT BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

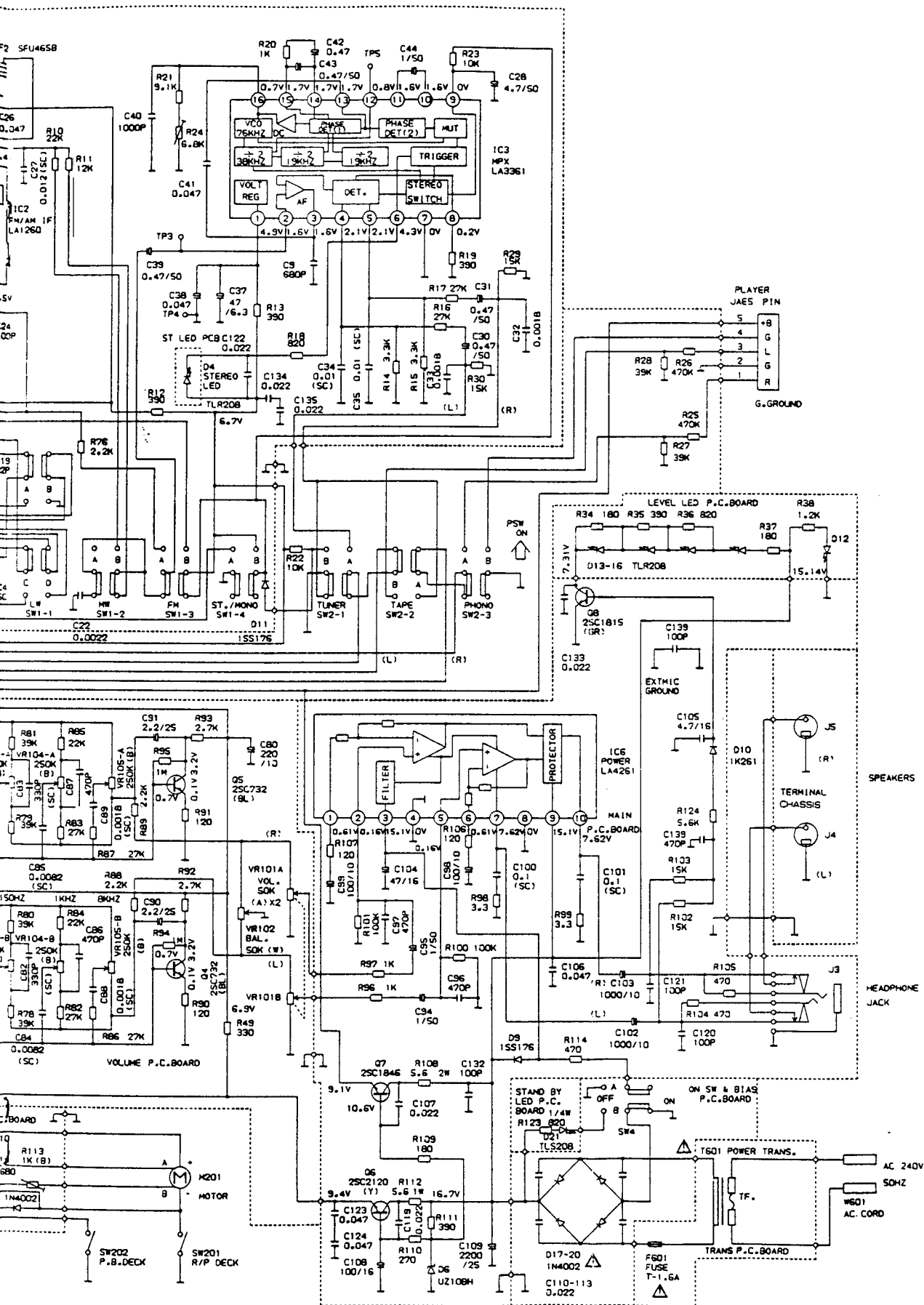
CIRCUIT DIAGRAM

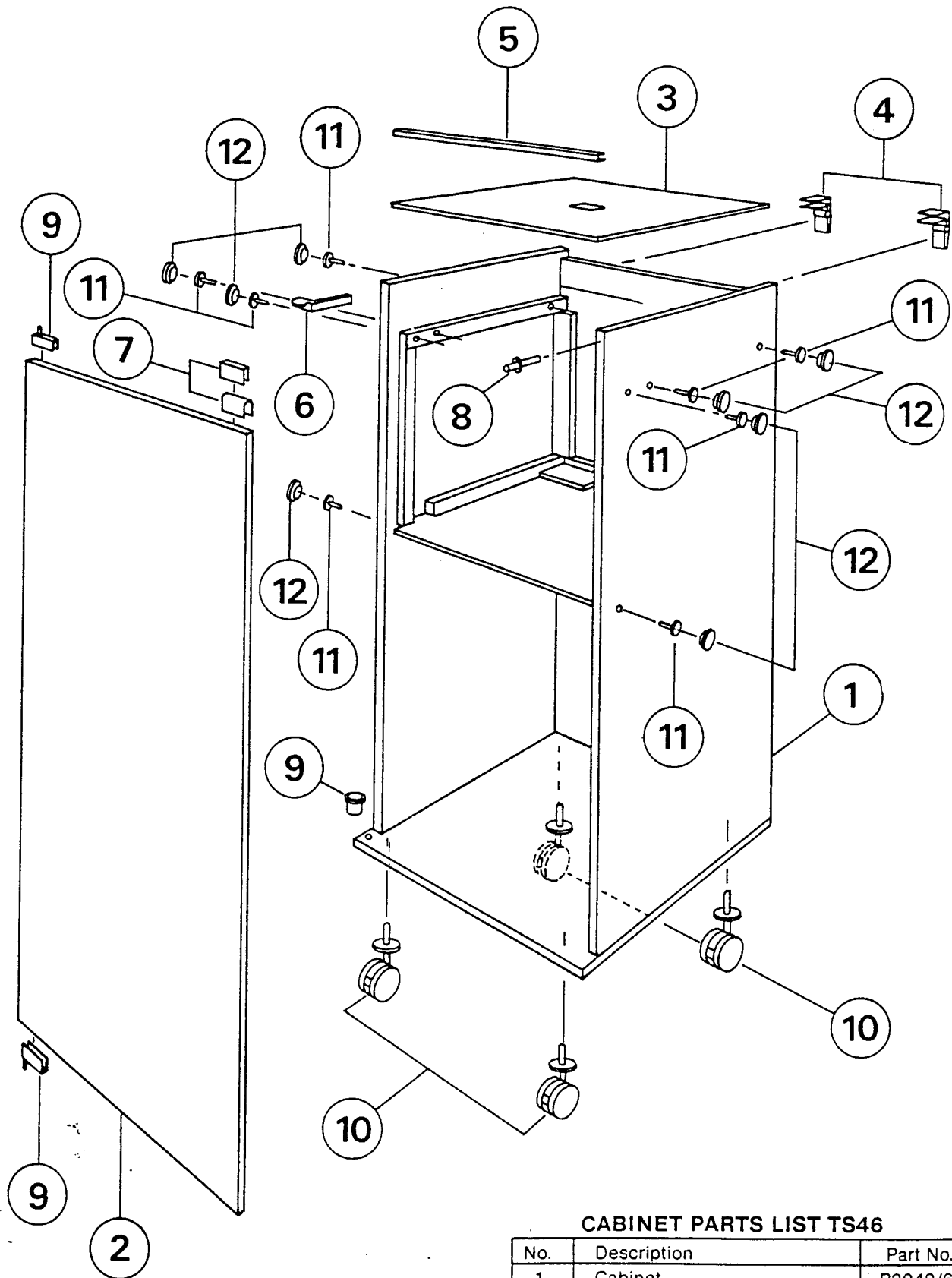


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IT DIAGRAM



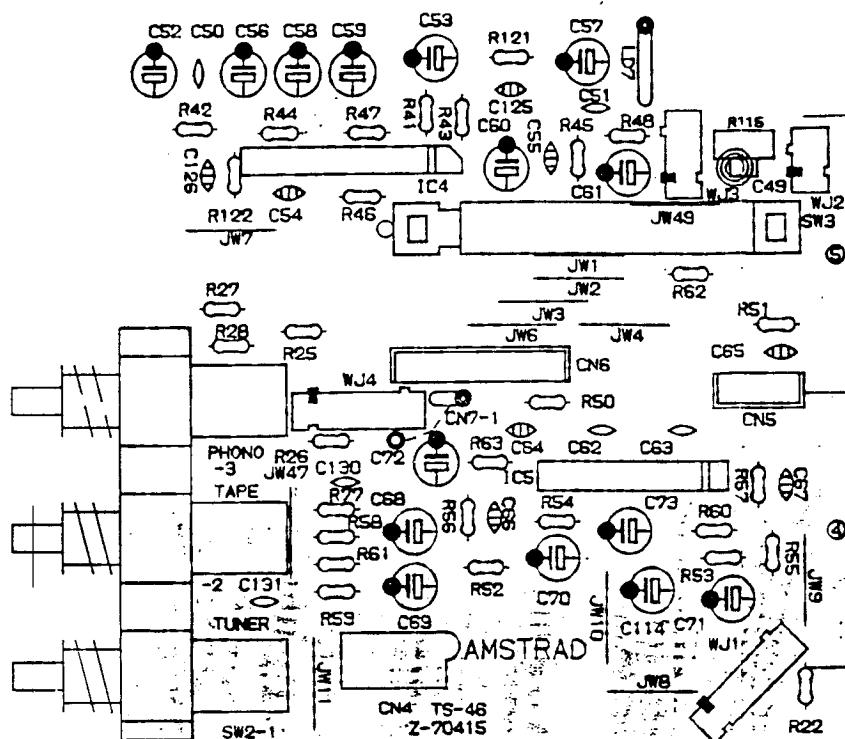


CABINET PARTS LIST TS46

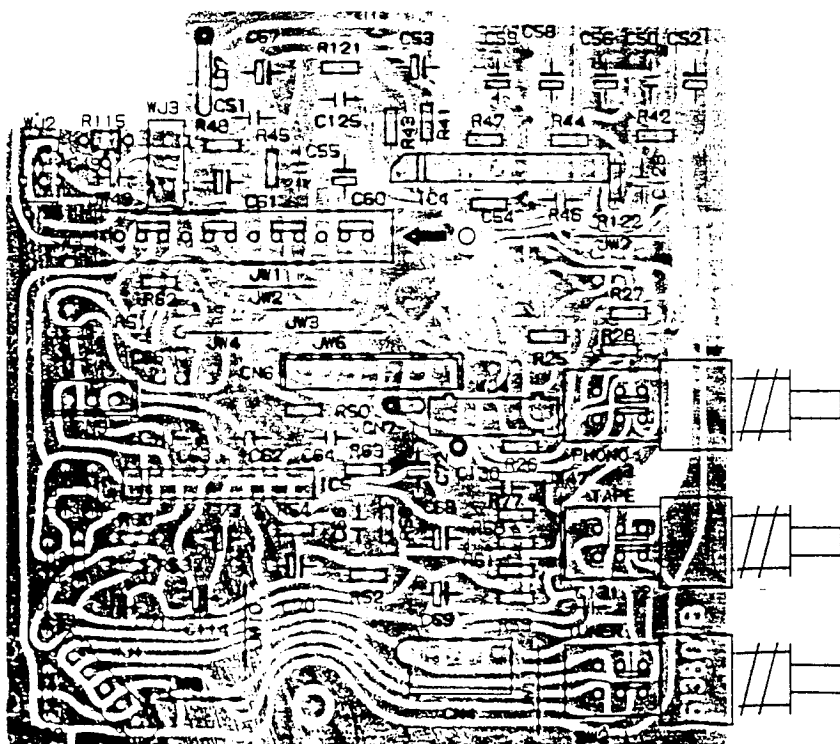
| No. | Description | Part No. |
|-----|----------------------|----------|
| 1 | Cabinet | B3049/6 |
| 2 | Glass Door | 70004 |
| 3 | Lid Record Deck | 70003 |
| 4 | Hinge Lid | 90008 |
| 5 | Trim Lid | 90090 |
| 6 | Rest Lid | |
| 7 | Handle Assy. | 93003 |
| 8 | Magnetic Lock | 90016 |
| 9 | Hinge Glass Door Kit | 90011 |
| 10 | Castors | 90100 |
| 11 | Screws | |
| 12 | Screw Caps | B1044 |

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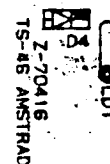
FUNCTION P.C.B. (Top View)



FUNCTION P.C.B. (Bottom View)

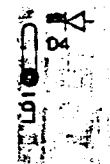


STEREO LED P.C.B.



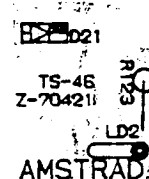
(Top View)

STEREO LED P.C.B.



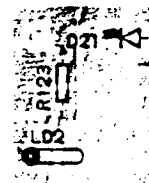
(Bottom View)

STANDBY LED P.C.B.



(Top View)

STANDBY LED P.C.B.

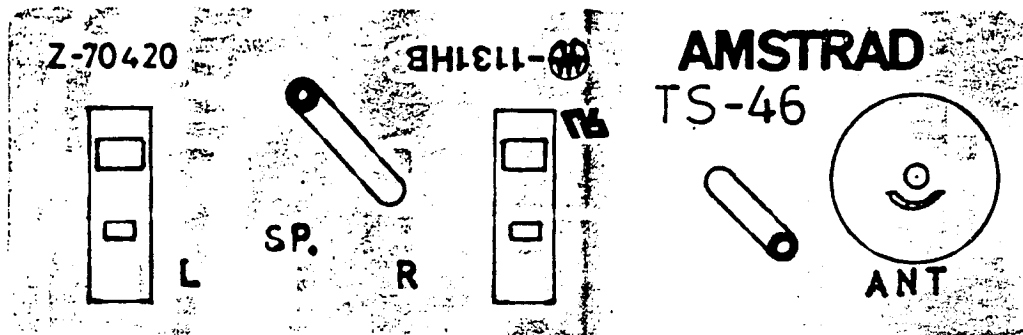


(Bottom View)

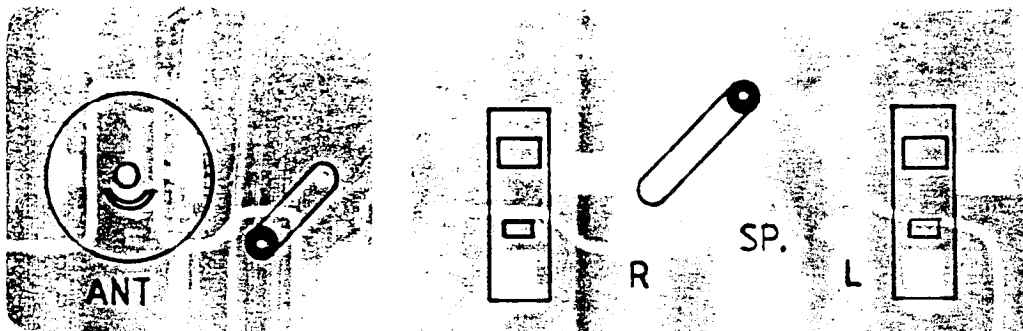
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Email: enquiries@mauritron.co.uk

TUNER P.C.B. (Bottom View)

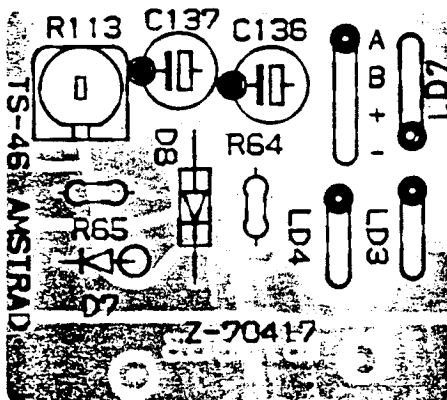
TERMINAL CHASSIS P.C.B. (Top View)



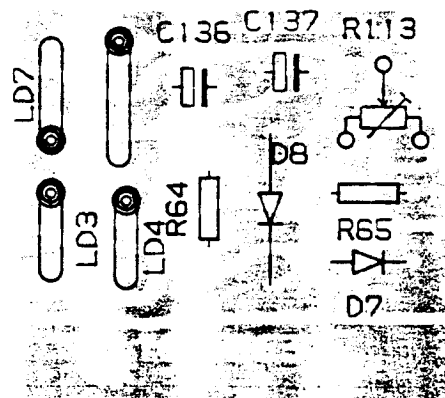
TERMINAL CHASSIS P.C.B. (Bottom View)



DECK P.C.B. (Top View)



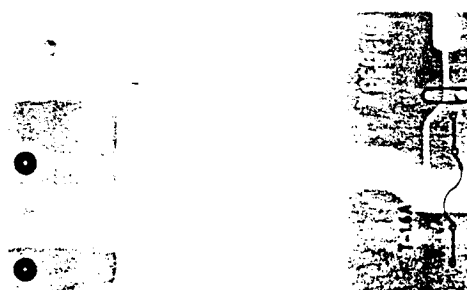
DECK P.C.B. (Bottom View)



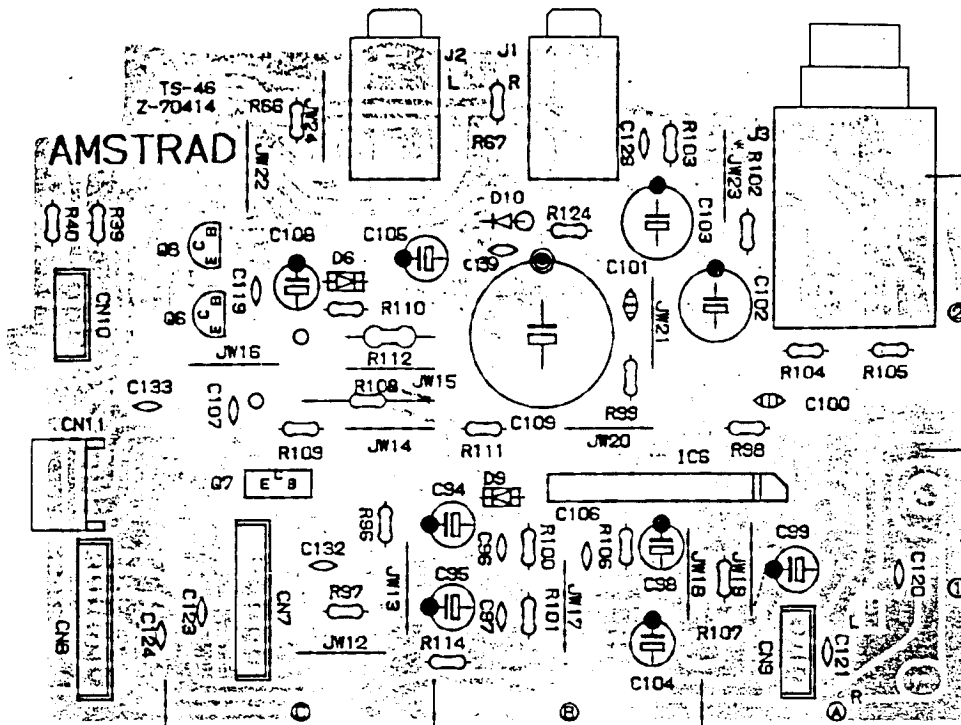
POWER SUPPLY P.C.B. (Top View)



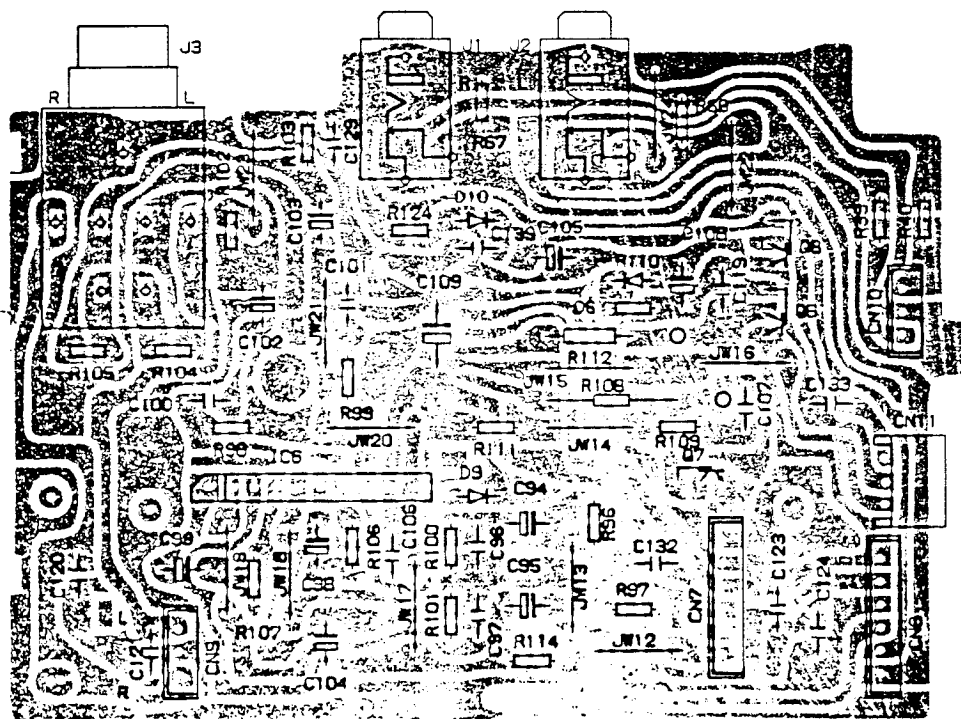
POWER SUPPLY P.C.B. (Bottom View)



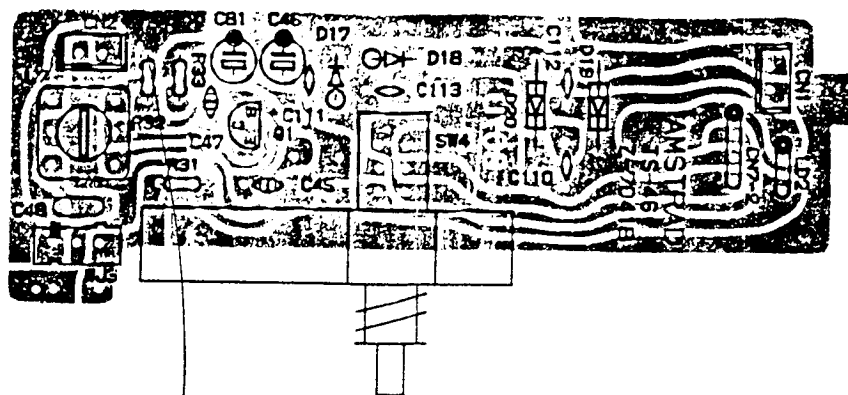
AMP P.C.B. (Top View)



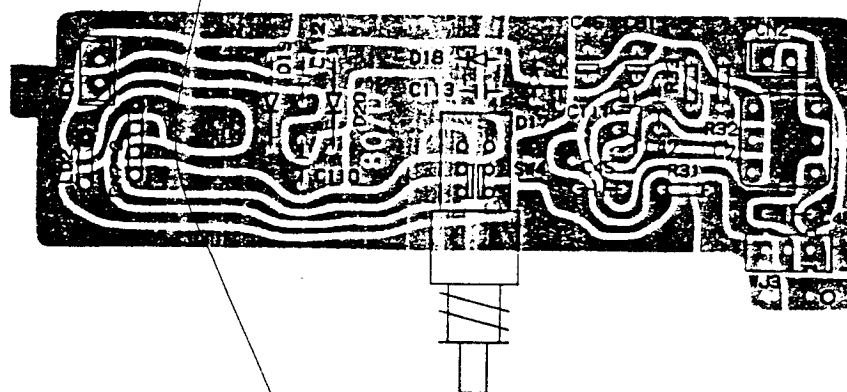
AMP P.C.B. (Bottom View)



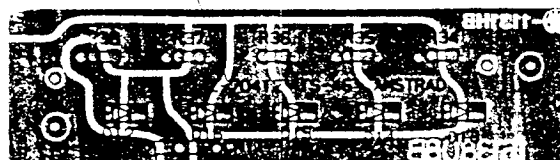
RECTIFIER & BIAS P.C.B. (Top View)



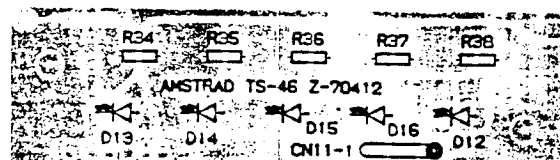
RECTIFIER & BIAS P.C.B. (Bottom View)



LEVEL LED P.C.B. (TOP VIEW)

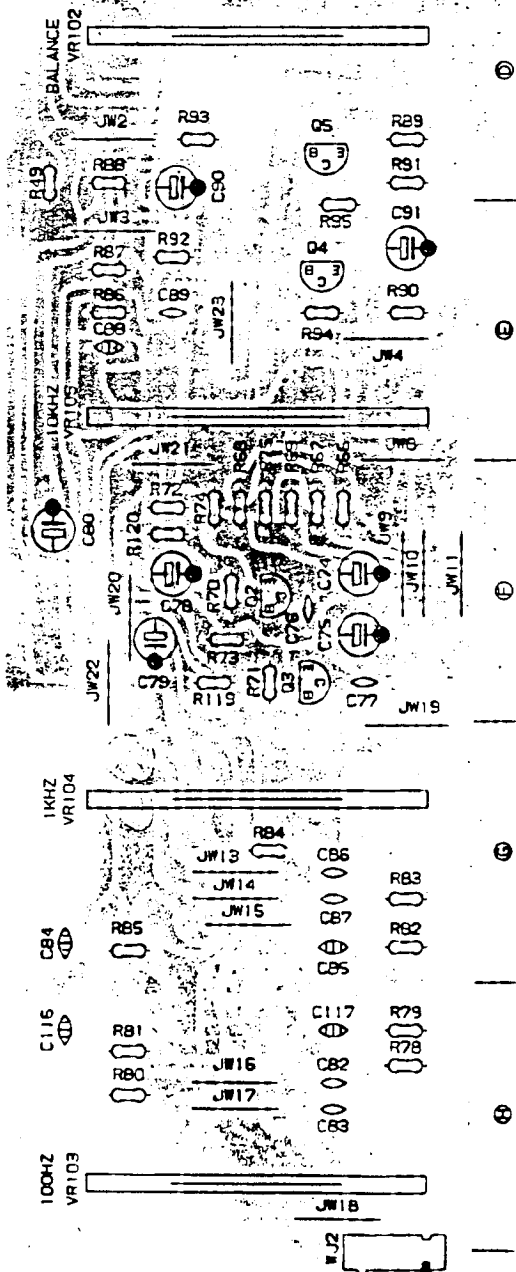


LEVEL LED P.C.B. (BOTTOM VIEW)



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VOL P.C.B. (TOP VIEW)

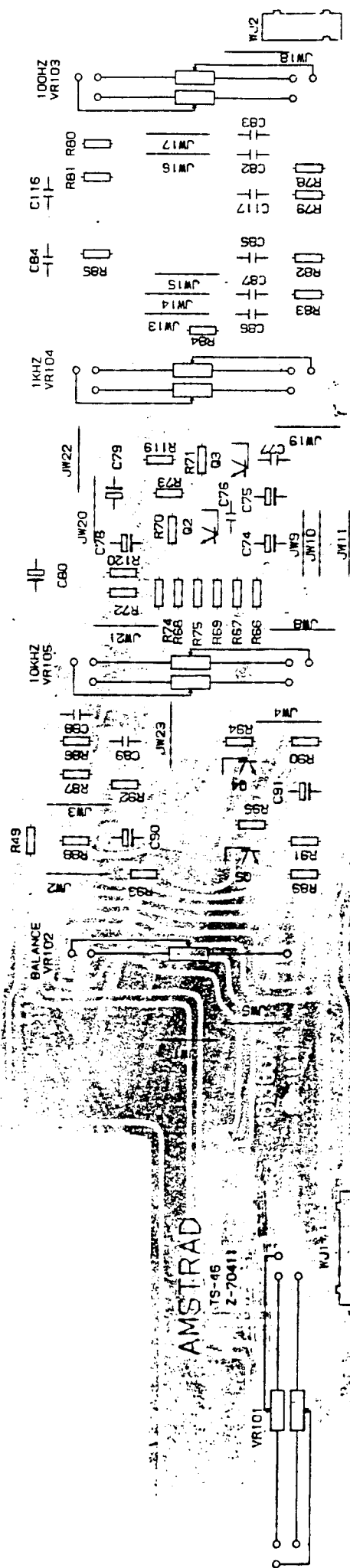


AMSTRAD

TS-46
Z-70411

VOL.
VR101

VOL P.C.B. (BOTTOM VIEW)



AMSTRAD

TS-46
Z-70411

VOL.
VR101

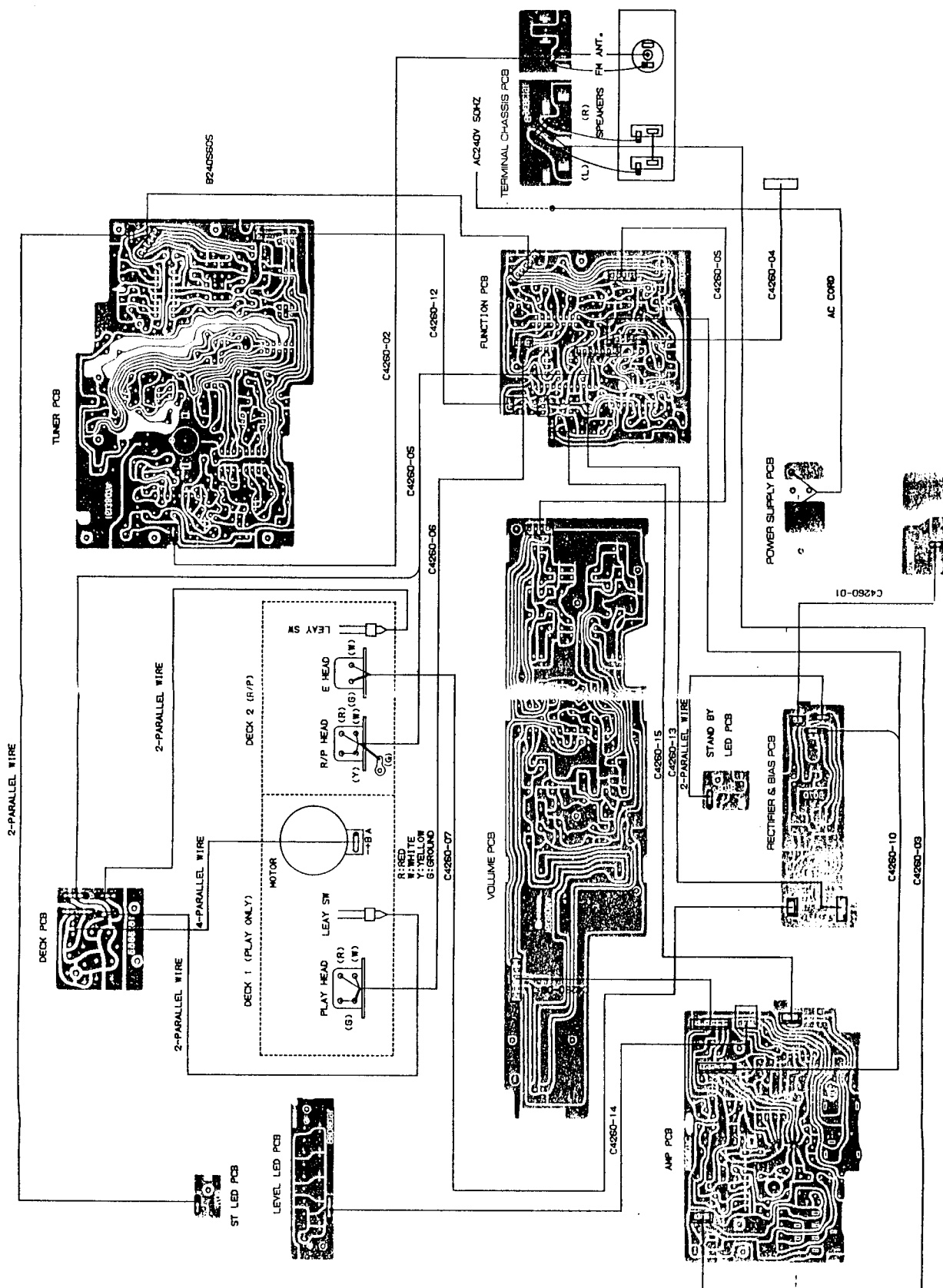
ELECTRICAL PARTS LIST

| Description | Circuit Reference | Part No. |
|---------------------------------|------------------------------------|----------|
| Carbon Film Resistors | | |
| 3.3ohm | R98, 99 | 10073 |
| 4.7ohm | R32 | 10077 |
| 22ohm | R1, 31 | 10016 |
| 39ohm | R4, 41 | 150467 |
| 120ohm | R90, 91, 106, 107 | 10034 |
| 180ohm | R3, 34, 37, 52, 53, 66, 67, 109 | 10037 |
| 270ohm | R110 | 10042 |
| 330ohm | R6, 49 | 10044 |
| 390ohm | R12, 13, 19, 35, 111 | 10046 |
| 470ohm | R48, 60, 104, 105, 114, 115 | 10048 |
| 560ohm | R64 | 10050 |
| 680ohm | R65, 74, 75 | 10052 |
| 820ohm | R8, 18, 36, 123 | 10054 |
| 1kohm | R20, 96, 97 | 10061 |
| 1.2kohm | R38 | 10063 |
| 1.5kohm | R119, 120 | 10065 |
| 2.2kohm | R72, 73, 76, 88, 89 | 10069 |
| 2.7kohm | R4, 92, 93 | 10068 |
| 3.3kohm | R14, 15 | 10073 |
| 3.9kohm | R39, 40, 58, 59 | 10075 |
| 5.6kohm | R9, 61, 77, 124 | 10079 |
| 8.2kohm | R63, 68, 69 | 10083 |
| 9.1kohm | R21 | 152193 |
| 10kohm | R22, 23 | 10085 |
| 12kohm | R11 | 10087 |
| 15kohm | R29, 30, 54, 55, 62, 102, 103 | 10089 |
| 18kohm | R45, 46 | 10091 |
| 22kohm | R5, 10, 84, 85, 121, 122 | 10093 |
| 27kohm | R16, 17, 82, 83, 86, 87 | 10095 |
| 39kohm | R50, 51, 78-81 | 10099 |
| 47kohm | R43, 44 | 10101 |
| 56kohm | R33 | 10103 |
| 100kohm | R100, 101 | 10109 |
| 330kohm | R3, 56, 57 | 10121 |
| 470kohm | R25, 26 | 10125 |
| 680kohm | R70, 71 | 10129 |
| 820kohm | R47, 123 | 10130 |
| 1Mohm | R2, 94, 95 | 10147 |
| Metal Resistors | | |
| 5.6ohm/1W | R112 | 200961 |
| 5.6ohm/2W | R108 | 200962 |
| Ceramic Capacitors | | |
| 4pF | C13 | 150487 |
| 5pF | C7, 14, 140 | 200507 |
| 8pF | C17 | 810310 |
| 15pF | C10 | 400106 |
| 18pF | C8 | 150512 |
| 20pF | C4 | 150528 |
| 30pF | C15 | 200973 |
| 82pF | C19 | 150517 |
| 100pF | C24, 29, 120, 121, 129, 132 | 24016 |
| 330pF | C82, 83 | 150518 |
| 470pF | C76, 77, 86, 87, 96, 97, 139 | 24004 |
| 680pF | C9, 130, 131 | 806223 |
| 820pF | C62, 63 | 800209 |
| 0.001uF | C2, 3, 5, 6, 36, 50, 51, 127, 128 | 24027 |
| 0.0018uF | C32, 33 | 200974 |
| 0.0022uF | C22, 122 | 200975 |
| 0.01uF | C34, 35, 100, 101 | 810312 |
| 0.012uF | C27 | 200976 |
| 0.022uF | C110-113, 107, 119, 133-135 | 24013 |
| 0.027uF | C125, 126 | 200977 |
| 0.047uF | C11, 12, 26, 38, 41, 106, 123, 124 | 24015 |
| Polypropylene Capacitors | | |
| 100pF | C138 | 200963 |
| 1300pF | C49 | 200964 |
| 4700pF | C48 | 200965 |
| Semiconductors | | |
| 0.0018uF | C64, 65, 88, 89 | 200969 |
| 0.0022uF | C54, 55 | 200970 |
| 0.0082uF | C84, 85 | 200971 |
| 0.01uF | C45, 66, 67 | 151583 |
| 0.022uF | C20, 21, 47 | 200972 |
| 0.033uF | C116, 117 | 151586 |

| Description | Circuit Reference | Part No. |
|--------------------------------|--|----------|
| Electrolytic Capacitors | | |
| 0.47uF/25V | C30 | 201236 |
| 0.47uF/50V | C31, 39, 42, 43, 74, 75 | 200966 |
| 1uF/50V | C44, 68, 69, 94, 95 | 20062 |
| 2.2uF/25V | C90, 91 | 201238 |
| 4.7uF/25V | C1, 28, 56, 60, 61, 78, 79, 81, 105, 118 | 151599 |
| 10uF/25V | C23, 73, 136, 137 | 200967 |
| 33uF/25V | C58 | 151637 |
| 47uF/25V | C25, 37, 70-72, 104 | 151640 |
| 100uF/10V | C52, 53, 98, 99, 102, 103 | 20028 |
| 100uF/16V | C108, 114 | 20028 |
| 220uF/10V | C59, 80 | 170611 |
| 2200uF/25V | C109 | 200968 |
| Ref. | Description | Part No. |
| I.C.s | | |
| IC1 | LA1186N Front End | 201068 |
| IC2 | LA1260 AM/FM IF | 201069 |
| IC3 | LA3361 MPX | 200402 |
| IC4 | BA3308 Rec Amp | 200901 |
| IC5 | BA3402 Play Amp | 200902 |
| IC6 | LA4261 Power Amp | 200900 |
| Transistors | | |
| Q1-5, 8, 9 | TR 2SC1815/2SC732 | 171137 |
| Q6 | TR 2SC2120 | 170113 |
| Q7 | TR 2SC1846 | 201073 |
| Diodes | | |
| D1-3, 7, 9, 11 | D. IN4148/1SS76 | 200241 |
| D8, 17-20 | D. IN4002 | 15008 |
| D4, 12-16 | D. LED Stereo 220 | 200903 |
| D6 | D. UZ10BH/MZT10D | 201079 |
| D10 | D. IK261/IN60 | 15001 |
| D21 | D. LED Standby 292 | 200955 |
| Sockets | | |
| J4, 5 | Speaker Jack | 200904 |
| J6 | DIN FM Antenna Socket | 200905 |
| J1, 2 | Jack Socket 3.5mm | 200906 |
| J3 | Jack Headphone 6.5mm | 200956 |
| Potentiometers | | |
| VR101 | Volume 50k ohm | 200907 |
| VR102 | Balance 50k ohm | 200908 |
| VR103-105 | Equalizer 250k ohm | 200909 |
| R24 | MPX ADJ S.F. 6.8k ohm | 200957 |
| R113 | Speed ADJ DECK S.F. 1k ohm | 200958 |
| R115 | BIAS ADJ S.F. 470ohm | 200959 |
| Switches | | |
| SW4 | Power Switch | 200910 |
| SW2 | Function Switch | 200954 |
| SW3 | Record Switch | 200956 |
| SW1 | Band Push Switch | 200957 |
| Coils | | |
| L1 | Coil Spring 112M163 | 200911 |
| L2 | Coil FM OSC 114M069 | 201083 |
| L3/4 | Coil AM/FM 111B711 | 200912 |
| L5 | Coil MW OSC 113M614 | 201085 |
| L6 | Coil LW OSC 113M615 | 201086 |
| L7 | Coil TAPE BIAS 113M654 | 200913 |
| T1 | Coil FM IFT 11LM228 | 201089 |
| T2 | Coil FM DETECTOR 11JM252 | 201090 |
| T3- | Coil AM IFT 11AM287 | 201091 |
| Variable Capacitors | | |
| TC4, 5 | TRIMMER 16pF | 200914 |
| TC1-4/VC1-4 | VARIABLE CAPACITOR | 200915 |
| Filters | | |
| CF1 | Ceramic Filter 10.7MHz | 993034 |
| CF2 | Ceramic Filter 465kHz | 800114 |
| BPF | Print Filter | 200917 |
| Miscellaneous | | |
| T601 | Power Transformer | 200918 |
| F601 | Fuse T1.6A | 200920 |

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WIRING DIAGRAM



| | | |
|------|--------|----------------------|
| A-1 | 200921 | Front Panel Assy |
| A-2 | 200980 | Dial Window |
| A-3 | 200922 | Tuning Knob |
| A-4 | 200923 | Volume Knob |
| A-5 | 200924 | Function Knob |
| A-6 | 200925 | Equalizer Knob |
| A-7 | 200926 | Dial Pointer |
| A-8 | 200927 | Cassette Door 1 |
| A-9 | 200928 | Cassette Door 2 |
| A-10 | 200929 | Volume Indicator |
| A-11 | 200930 | Back Screen |
| A-12 | 200931 | Terminal Plate |
| A-13 | 200932 | Record Key |
| A-14 | 200933 | Play Key S |
| A-15 | 200934 | Play Key B |
| A-16 | 200935 | Record Key |
| A-17 | 200936 | FF Key |
| A-18 | 200937 | Stop Key |
| A-19 | 200938 | Pause Key |
| A-20 | 200939 | Knob Chassis |
| B-1 | 200940 | Tuning Knob Holder |
| B-2 | 200941 | Dial Drum |
| B-3 | 200942 | Tuner PCB Holder |
| B-4 | 200943 | Pre Amp PCB Holder |
| B-5 | 200944 | Pulley Holder |
| B-6 | 200945 | Deck Holder |
| B-7 | 200946 | Function PCB Holder |
| B-8 | 200947 | Chassis Fixing Metal |
| B-9 | 200948 | Tuning Pulley |
| B-10 | 200949 | Dial Spring |
| B-11 | 200950 | Record Spring |
| B-12 | 200951 | Rec Spring Holder |
| B-13 | 200952 | Damper Plate |
| B-14 | 200953 | Door Spring |
| B-15 | 200954 | |

CHASSIS DRAWING

